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EXAMINER	
MOORE, IAN N	

ART UNIT	PAPER NUMBER
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/765,561	HONG ET AL.	
	Examiner	Art Unit	
	Ian N. Moore	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 January 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *26 January 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/15/05;3/24/05;11/13/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities:

In the specification, page 8, paragraph 18 and page 10, paragraph 26, recites, "**the wireless network device 14**". However, on page 7, paragraph 13 (which refers to FIG. 1), recites, "**the wireless network device 12**" and "**an access point 14**". Thus, it is suggested to use consistent labels.

Appropriate correction is required.

Claim Objections

2. Claims 1-4 are objected to because of the following informalities:

Claim 1 fails to recite any transitional phrases (e.g. comprising, containing, or etc.), which defines the scope of the claim. It is suggested to incorporate appropriate transitional phrase.

Claim 1 recites, "**data packets**" in line 5. For consistency and clarification with "data packets" recited in line 3, it is suggested to change "data packets" in line 5, to "**the** data packets".

Claim 1 recites "**the** latency" in line 9. Since it is recited for the first time in the claim, for clarity it is suggested to change "the latency" to "**a** latency" or "latency".

Claim 2 and 4 are also objected for the same reason as set forth above in claim 1.

Claim 2 recites, "**the remote** device" in line 10. For consistency and clarification with "a remote wireless device" recited in line 3, it is suggested to change "**the remote** device" in line 10, to "**the remote wireless** device".

Claim 3 recites, "**a latency**" in line 5. For consistency and clarification with "**a latency**" recited in line 3, it is suggested to change "**a** latency" in line 5, to "**the latency**".

Claim 3 recites "**the** arrival" in line 6 and "**the** sending" in line 8. Since it is recited for the first time in the claim, for clarity it is suggested to change "the arrival" to "**an** arrival" (or arrival) in line 6 and "the sending" to "sending".

Claim 3 recites, "**the incoming packet**" in lines 6 and 8. For consistency with "a particular incoming packet" recited in line 3, it is suggested to revise as "the **particular** incoming packet".

Claim 3 recites, "**the value**" in line 11. For consistency with "a first value" recited in line 10, it is suggested to revise as "**the first value**".

Claim 3 recites "**the** network load" in line 11. Since it is recited for the first time in the claim, for clarity it is suggested to change "the network load" to "**a** network load".

Claim 4 recites "**first means**" in lines 3 and 5. For consistency and clarification, it is suggested to change "first means" in line 5" in line 10, to "**the second means**" (or equivalent thereof similar to claim 2).

Appropriate corrections are required.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claim 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kostic (US 20030139197A1) in view of Tolli (US 20060014544A1).

Regarding Claim 1, Kostic discloses a device (see FIG. 1-2, Access Point 200, AP_A 200) for transmitting data wirelessly (see FIG. 1-2, access point 200 transmit packets via wireless interface 250; see page 2, paragraph 19; see page 3, paragraph 29), the transmission of the data operating under a wireless protocol (see page 2, paragraph 19-21; transmission of packets according to wireless LAN (WLAN), IEEE 802.11);

a first circuit (see FIG. 2, Wireless interface 250) for receiving or transmitting data packets from or to a remote wireless device (see FIG. 1,3, receiving/transmitting WLAN packets to/from Mobile Station MS 400; see page 1, paragraph 14-15; see page 3, paragraph 29; see page 4, paragraph 32);

a second circuit (see FIG. 2, Network Interface 252) for receiving or transmitting data packets from or to a first device through a network connection (see FIG. 1-2, receiving/transmitting data packets Access Point 200, AP_N 200 or any other device in the wired network that couples to a network interface 252; see page 1, paragraph 14-16; see page 3, paragraph 29) and

a third circuit (see FIG. 2, a combined system of processor 204 and memory 202) for determining a load factor (see page 3, paragraph 27; loading data), wherein the load factor is based at least in part on the loading information of a data packet in moving between the remote wireless device and the first device (see page 1, paragraph 15-16; see page 2, paragraph 22; see page 3, paragraph 26-31; loading data is based upon loading information (i.e. link quality,

congestion, errors, transmission queue length, etc.) of a packet moving/transmitting between MS and source AP_N /any other source network device from the wired network).

Kostic does not explicitly disclose latency.

However, determining latency/delay of data is so well known and established in art. In particular, Tolli teaches a device for transmitting data wirelessly (see FIG. 1-2, a combined system of BTS 226 and controller 200 (e.g. BTS 126) transmit packets wirelessly over radio system) comprising a circuit (see FIG. 2, controller 200) for determining a load factor, wherein the load factor is based at least in part on the latency of a data packet (see page 3, paragraph 35-36; measuring delay of packet data by measuring the buffer delay of the data packet (i.e. buffer delay is measured between a packet data collected time at the buffer and transmit time from the buffer); see page 5-6, paragraph 63-65) in moving between the remote wireless device and the first device (see FIG. 1-2, the packets are moved/transmitted between UE 170 and BTS 222/227; see page 3, paragraph 33-37; see page 4, paragraph 41,43,46,48).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide determining latency, as taught by Tolli in the system of Kostic, so that it would improve traffic management in a radio system by maximize the data throughput and minimize the delay; see Tolli page 1, paragraph 9-12.

Regarding Claim 2, Kostic discloses a device (see FIG. 1-2, Access Point 200, AP_A 200) for transmitting data wirelessly (see FIG. 1-2, access point 200 transmit packets via wireless interface 250; see page 2, paragraph 19; see page 3, paragraph 29), the transmission of the data operating under a wireless protocol (see page 2, paragraph 19-21; transmission of packets according to wireless LAN (WLAN), IEEE 802.11); the device comprising:

a first circuit (see FIG. 2, Wireless interface 250) for receiving or transmitting data packets from or to a remote wireless device (see FIG. 1,3, receiving/transmitting WLAN packets to/from Mobile Station MS 400; see page 1, paragraph 14-15; see page 3, paragraph 29; see page 4, paragraph 32);

a second circuit (see FIG. 2, Network Interface 252) for receiving or transmitting data packets from or to a first device through a network connection (see FIG. 1-2, receiving/transmitting data packets Access Point 200, AP_N 200 or any other device in the wired network that couples to a network interface 252; see page 1, paragraph 14-16; see page 3, paragraph 29) and

a third circuit (see FIG. 2, a combined system of processor 204 and memory 202) for determining a load factor (see page 3, paragraph 27; determining/measuring/computing loading data), wherein the load factor is based at least in part on the loading information of a data packet in moving between the remote wireless device and the first device (see page 1, paragraph 15-16; see page 2, paragraph 22; see page 3, paragraph 26-31; loading data is based upon loading information (i.e. link quality, congestion, errors, transmission queue length, etc.) of a packet moving/transmitting between MS and source AP_N /any other source network device from the wired network);

the device relaying the load factor to the remote device through the first circuit (see FIG. 3, Table 1, 3; AP_A 200 sending loading data (i.e. capability information) to the MS via wireless interface 250 in a response frame) upon receiving an indication from the remote wireless device (see page 2, paragraph 21-30; when receiving a request frame from the MS).

Kostic does not explicitly disclose latency.

However, determining latency/delay of data is so well known and established in art. In particular, Tolli teaches a device for transmitting data wirelessly (see FIG. 1-2, a combined system of BTS 226 and controller 200 (e.g. BTS 126) transmit packets wirelessly over radio system) comprising a circuit (see FIG. 2, controller 200) for determining a load factor, wherein the load factor is based at least in part on the latency of a data packet (see page 3, paragraph 35-36; measuring load parameter, wherein the load parameter is the delay of packet data by measuring the buffer delay of the data packet (i.e. buffer delay is measured between a packet data collected time at the buffer and transmit time from the buffer); see page 5-6, paragraph 63-65) in moving between the remote wireless device and the first device (see FIG. 1-2, the packets are moved/transmitted between UE 170 and BTS 222/227; see page 3, paragraph 33-37; see page 4, paragraph 41,43,46,48).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide determining latency, as taught by Tolli in the system of Kostic, so that it would improve traffic management in a radio system by maximize the data throughput and minimize the delay; see Tolli page 1, paragraph 9-12.

Regarding Claim 3, Kostic discloses a method (see FIG. 1-2, Access Point 200, AP_A 200 processing steps/methods) for determining a load factor (see page 3, paragraph 27; loading data) for a device (see FIG. 1-2, Access Point 200, AP_A 200) associated with a wireless network (see FIG. 1-2, network 100, wireless LAN (WLAN); page 2, paragraph 19-21), the method comprising:

selectively determining to measure a loading information associated with a particular incoming packet (see FIG. 2, a combined system of processor 204 and memory 202

selects/chooses/enables to determine/measure/compute loading data based upon is based upon loading information (i.e. link quality, congestion, errors, transmission queue length, etc.) of a packet; see page 1, paragraph 15-16; see page 2, paragraph 22; see page 3, paragraph 26-31);

upon selectively determining to measure a loading data (see page 1, paragraph 15-16; see page 2, paragraph 22; see page 3, paragraph 26-31; when selecting/choosing/enabling to determine/measure/compute a loading data), performing the steps of:

determining a parameter associated the arrival of the incoming packet from a first network device (see page 3, paragraph 27-30; determining/measuring/computing/counting a parameter (i.e. link quality, congestion, errors, transmission queue length, etc.) associated with a received packet from source AP_N /any other source network device from the wired network)

determining a parameter associated the sending of the incoming packet to a second network device (see page 3, paragraph 27-30; determining/measuring/computing/counting a parameter (i.e. link quality, congestion, errors, transmission queue length, etc.) associated with a packet from MS);

determining a first value (see FIG. 3, determining capacity information 300), the value to be sent to other wireless network devices (see FIG. 1, to mobile stations, MS_M) as an indication of the network load of the device (see FIG. 3, Table 1, 3; AP_A 200 sending loading data (i.e. capability information) to the mobile stations via wireless interface 250 in a response frame; see page 2, paragraph 21-30).

Kostic does not explicitly disclose latency, a first time, a second time, and associated with first time and the second time.

However, measuring latency/delay of data, where the latency/delay is determined between the transmit and received time is so well known and established in art. In particular, Tolli teaches a method for determining a load factor for a device associated with a wireless network (see FIG. 1-2, a combined system of BTS 226 and controller 200 (e.g. BTS 126) processes the steps/method to determine loading parameters in the wireless network; see FIG. 3, methods) comprising:

selectively determining to measure a latency associated with a particular incoming packet (see FIG. 2, controller 100 selects/chooses/enables to measure delay of packet data by measuring the buffer delay of the data packet (i.e. buffer delay is measured between a packet data collected time at the buffer and transmit time from the buffer); see page 5-6, paragraph 63-65):

upon selectively determining to measure a latency (see page 5-6, paragraph 63-65; when choosing/selecting/enabling to measure/determine the delay), performing the steps of:

determining a first time associated with the arrival of the incoming packet from a first network device (see page 5-6, paragraph 63-68; determining a time of a collected/received packet data in the buffer from BTS 222/227);

determining a second time associated with the sending of the incoming packet to a second network device (see page 5-6, paragraph 63-68; determining a time of a transmitted/de-buffer packet data from the buffer to UE);

determining a first value associated with the first time and the second time (see page 5-6, paragraph 63-68; determining a buffer delay time associated with received and transmit time).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide latency, a first time, a second time, and associated with first

time and the second time, as taught by Tolli in the system of Kostic, so that it would improve traffic management in a radio system by maximize the data throughput and minimize the delay; see Tolli page 1, paragraph 9-12.

Regarding Claim 4, Kostic discloses a device (see FIG. 1-2, Access Point 200, AP_A 200) for transmitting data wirelessly (see FIG. 1-2, access point 200 transmit packets via wireless interface 250; see page 2, paragraph 19; see page 3, paragraph 29), the transmission of the data operating under a wireless protocol (see page 2, paragraph 19-21; transmission of packets according to wireless LAN (WLAN), IEEE 802.11) the device comprising:

first means (see FIG. 2, Wireless interface 250) for receiving or transmitting data packets from or to a remote wireless device (see FIG. 1,3, receiving/transmitting WLAN packets to/from Mobile Station MS 400; see page 1, paragraph 14-15; see page 3, paragraph 29; see page 4, paragraph 32);

first means (see FIG. 2, Network Interface 252) for receiving or transmitting data packets from or to a first device through a network connection (see FIG. 1-2, receiving/transmitting data packets Access Point 200, AP_N 200 or any other device in the wired network that couples to a network interface 252; see page 1, paragraph 14-16; see page 3, paragraph 29) and

means for determining (see FIG. 2, a combined system of processor 204 and memory 202) a load factor (see page 3, paragraph 27; determining/measuring/computing loading data), wherein the load factor is based at least in part on the loading information of a data packet in moving between the remote wireless device and the first device (see page 1, paragraph 15-16; see page 2, paragraph 22; see page 3, paragraph 26-31; loading data is based upon loading information (i.e. link quality, congestion, errors, transmission queue length, etc.) of a packet

moving/transmitting between MS and source AP_N /any other source network device from the wired network);

the device relaying the load factor to the remote device through the first circuit (see FIG. 3, Table 1, 3; AP_A 200 sending loading data (i.e. capability information) to the MS via wireless interface 250 in a response frame) upon receiving an indication from the remote wireless device (see page 2, paragraph 21-30; when receiving a request frame from the MS).

Kostic does not explicitly disclose latency.

However, determining latency/delay of data is so well known and established in art. In particular, Tolli teaches a device for transmitting data wirelessly (see FIG. 1-2, a combined system of BTS 226 and controller 200 (e.g. BTS 126) transmit packets wirelessly over radio system) comprising means for determining a load factor (see FIG. 2, controller 200), wherein the load factor is based at least in part on the latency of a data packet (see page 3, paragraph 35-36; measuring delay of packet data by measuring the buffer delay of the data packet (i.e. buffer delay is measured between a packet data collected time at the buffer and transmit time from the buffer); see page 5-6, paragraph 63-65) in moving between the remote wireless device and the first device (see FIG. 1-2, the packets are moved/transmitted between UE 170 and BTS 222/227; see page 3, paragraph 33-37; see page 4, paragraph 41,43,46,48).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide determining latency, as taught by Tolli in the system of Kostic, so that it would improve traffic management in a radio system by maximize the data throughput and minimize the delay; see Tolli page 1, paragraph 9-12.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- **Young (US006990116B1)** discloses a system for improving load conduction over the a wireless local area network (WLAN).
- **Decker (US006195338B1)** discloses a system to control overload protection in cellular network using persistence rules values.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian N. Moore whose telephone number is 571-272-3085. The examiner can normally be reached on 9:00 AM- 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Doris To can be reached on 571-272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Ian N. Moore
Art Unit 2616